

CONTRACT CHANGE ORDER NO. 263 SUPPL. NO. 0
 ROAD 04-SF-80-13.2, 13.9 SHEET 2 OF SHEETS
 FEDERAL NO.(S) CONTRACT NO.: 04-0120F4

Revise Special Provisions Section 10-1.60, "CABLE SYSTEM," subsection "ERECTION," subsection "Wrapping of the Cable," as follows:

After the design load of the steel box girder has been transferred to the cable system and before dismantling the footbridge system, the cable shall be wrapped with cable wrapping wire as specified herein. ~~Wrapping wire tension shall be per the wrapping wire manufacturer's recommendation.~~

The wrapping shall be done over the zinc paste waterproofing system as specified herein.

The Contractor shall provide a power driven wrapping machine. It shall have the following features:

- A. Capable of providing the specified force in the wrapping wire.
- B. Whenever the machine is stopped it shall hold the tension in the wrapping wire.
- C. The tension in the wire shall be measurable at any time. The exterior torque countering the torque of the pull of the wire shall be measured. The friction in tensioners, fairleads or disks shall be calibrated and set for the required tension.
- D. The machine shall align the grooves of the wrapping wire automatically.
- E. The machine shall be capable of wrapping away from a band and toward a band, over wrapping wire.

Installation of wrapping wire shall begin at the lower band. When starting, there shall be sufficient wire behind the machine to wrap a minimum of two windings of wrapping within the band groove. The wire behind the machine shall be anchored to a fixed boundary. Wrapping shall proceed uphill. The first three windings shall be soldered together as soon as the wrapping machine is sufficiently distant. The anchored end of the wire shall then be wound, by hand, inside the band groove, and they shall also be soldered to the previously soldered wires.

The wires shall be machine-wrapped as close to the uphill band as practicable to solder three consecutive windings. The machine may then be removed and the wrapping inside the band may be completed by hand as described above for the lower band.

~~Wrapping wire splicing shall follow the wrapping wire manufacturer's specifications.~~

Start the cable wrapping at a lower band and wrap upslope to the higher cable band. Maintain the tension in the wrapping wire between 200 kilogram-force (kgf) and 290 kgf.

Secure the wrapping wire using a thermite weld process approved by The Engineer. Use a minimum of 4 welds, staggered such that at least 4 wire wraps are secured together, and each individual wire wrap is held by at least two welds. Dress the weld reinforcing to a height of 3mm above the wrapping wire by means approved by the Engineer.

Start machine wrapping as close as practicable to the lower cable band. Then secure the wrapping wire and push/tap/slide it into place with a minimum of two full windings within the cable band caulking groove.

Tools used for pushing and manipulating the wire should be brass, aluminum, or manufactured from another material that will not damage the wrapping wire, the main cable wire, or the galvanized coating on the wires. Specialized steel tools may be permitted when specifically approved by the Engineer if they can be employed without damage to the galvanizing or the wires.

Machine-wrap and secure the wrapping wire as close as practicable to the upslope cable band. Thereafter, hand-wrap a minimum of two full windings within the caulking groove. The hand wrapped wire must meet the minimum specified tension up to the face of the cable band. Within the caulking groove, the wires must be of sufficient tension so that they lay flat against the main cable. Secure the wrapping wire with thermite welds as close to the cable band as possible. Terminate the wrapping wire around a cable band bolt if all the gaps between cable band halves are 10mm or greater or as directed by the engineer. Wind the wire around the bolt with two turns and leave any tail flat against the main cable. It is acceptable to leave sufficient wire to lock under the next adjacent bolt. If the butyl rubber has been installed, force the wire into the butyl rubber seal to a height less than 10mm above the main cable. The wire must not stick up so that it could compromise the caulking system, or act as a wick for moisture to penetrate to the main cable.

Use a minimum of 3 steel wedges to secure the wrapping wire within the caulking groove of the upper cable bands.

It is acceptable to use tin/lead solder, silver solder, or other temporary means approved by the Engineer to secure the wrapping wire prior to inserting the wedges. The solder may remain in place within the envelope of the butyl rubber/caulk seal, but must otherwise be removed from the wrapping wire prior to painting.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HC-5 (Rev. 5/93)

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Wrapping wires may be spliced by use of thermite welds or resistance butt welds. Details of the splicing process and procedure must be approved by the Engineer.

Revise Special Provisions Section 10-1.60, "CABLE SYSTEM," subsection "ERECTION," subsection "Zinc Paste Waterproofing System," as follows:

Immediately before the application of the zinc paste waterproofing system, the cable surface shall be dry and all remaining dust or loose particles shall be removed by vacuuming methods. After vacuuming, the cable surface shall be cleaned with mineral spirits. The Contractor shall notify the Engineer at least 24 hours before the application of the zinc paste waterproofing system.

The Contractor shall arrange for the zinc paste waterproofing system manufacturer's representative to be present at all times during the application of the zinc paste waterproofing system until final acceptance of the zinc paste waterproofing system. The manufacturer's representative shall be qualified and experienced and shall certify to the Engineer as to the acceptability of every phase of the operation, which includes, but is not limited to, surface preparation of the cable surface, mixing of the components, method of application, and removal of excess paste from the wrapping wire surface.

Zinc paste waterproofing system shall not be applied when rain is forecast within 6 hours of the application.

~~The temperature of the cable wires shall be at least 3°C above the dew point.~~ In the presence of the Engineer, prepare the area of the cable to which paste will be applied by wiping with a clean dry cloth or towel to ensure that the wire surfaces are clean and dry. Apply zinc paste immediately after surface preparation.

The zinc paste shall be applied to the cable surface by brush, trowel, or grease mitt in excess such that a layer of zinc paste is forced out ahead of the wrapping wire and between the wrapping wires, both of which indicate that voids and crevices between cable wires and between the wrapping wire and cable wires have been completely filled with paste.

Excess paste that seeps out between wrapping wires shall be removed from the surface of the wrapping wires immediately using cloth rags moistened with mineral spirits. Excess paste that is forced out ahead of the wrapping wire may be collected and, if not contaminated, reapplied to the cable surface.

The cable wrapping wire shall be installed over the bed of zinc paste waterproofing system within six hours of the application of the zinc paste.

